

AMENDMENTS TO THE CLAIMS:

Please amend the claims as follows:

1-8. (Canceled)

9. (Currently Amended) An IC chip for reading an image, comprising:

a plurality of image reading photoelectric conversion elements divided into a plurality of groups;

a read selection circuit for sequentially selecting the plurality of image reading photoelectric conversion elements and reading a photoelectric conversion signal from the selected image reading photoelectric conversion element;

~~an initialization selection circuit for sequentially selecting the plurality of image reading photoelectric conversion elements and initializing the selected image reading photoelectric conversion element;~~

a plurality of signal output lines by way of which the photoelectric conversion signal is transmitted, each of the plurality of signal output lines being independently provided from each other and corresponding to ~~and independently provided for each of~~ the plurality of groups;

an output circuit;

a signal output line switching circuit connected between the plurality of signal output lines and the output circuit for sequentially selecting ~~[[from]]~~ among the plurality of signal output lines to lead the photoelectric conversion signal transmitted through the selected signal output line to the output circuit; and ~~according to a position of the selected image reading photoelectric conversion element;~~

~~a logic circuit for controlling the signal output line switching circuit; and~~
~~an output circuit for processing the photoelectric conversion signal that is~~
~~transmitted through the selected signal output line and then outputting a resulting signal,~~
~~the output circuit being connected to the selected signal output line through the signal~~
~~output line switching circuit,~~

a logic circuit for controlling the signal output line switching circuit wherein the
signal output line switching circuit switches to to switch from a signal output line
currently selected to a signal output line corresponding to the next group from a signal
output line currently selected after a last photoelectric conversion signal in the currently
selected a current group has been read but and before a first photoelectric conversion
signal in [[a]] the next group is read.

10. (Currently Amended) An IC chip for reading an image as claimed in claim 9,
further comprising:

an initialization selection circuit for sequentially selecting the plurality of image
reading photoelectric conversion elements and initializing the selected image reading
photoelectric conversion element,

wherein the read selection circuit reads the photoelectric conversion signal from
the selected image reading photoelectric conversion element during one period of a
clock signal, and

wherein the initialization selection circuit initializes the selected image reading
photoelectric conversion element during a last half of said one period and during a first

half of a next period of the clock signal.

11. (Currently Amended) An IC chip for reading an image, comprising:
a plurality of image reading photoelectric conversion elements divided into a plurality of first groups;

a first read selection circuit for sequentially selecting the plurality of image reading photoelectric conversion elements and reading a first photoelectric conversion signal from the selected image reading photoelectric conversion element;

~~a first initialization selection circuit for sequentially selecting the plurality of image reading photoelectric conversion elements and initializing the selected image reading photoelectric conversion element;~~

a plurality of first signal output lines by way of which the first photoelectric conversion signal is transmitted from the plurality of image reading photoelectric conversion elements, each of the plurality of first signal output lines being independently provided from each other and corresponding to ~~and independently provided for~~ each of the plurality of first groups;

a plurality of dummy photoelectric conversion elements divided into a plurality of second groups, each of the plurality of dummy photoelectric conversion elements shielded from light and forming an exclusive pair with one of the plurality of image reading photoelectric conversion elements by being arranged in close proximity thereto;

a second read selection circuit for sequentially selecting the plurality of dummy photoelectric conversion elements and reading a second photoelectric conversion signal

from the selected dummy photoelectric conversion element;

~~a second initialization selection circuit for sequentially selecting the plurality of dummy photoelectric conversion elements and initializing the selected dummy photoelectric conversion element;~~

a plurality of second signal output lines by way of which the second photoelectric conversion signal is transmitted from the plurality of dummy photoelectric conversion elements, each of the plurality of second signal output lines being independently provided from each other and corresponding to ~~and independently provided for each of~~ the plurality of second groups;

an output circuit;

a signal output line switching circuit connected between the plurality of first signal output lines and the output circuit for sequentially selecting ~~[[from]]~~ among the plurality of first signal output lines to lead the first photoelectric conversion signal transmitted through the selected first signal output line to the output circuit according to a position of ~~the selected image reading photoelectric conversion element and also~~ connected between the plurality of second signal output lines and the output circuit for sequentially selecting ~~[[from]]~~ among the plurality of second signal output lines to lead the second photoelectric conversion signal transmitted through the selected second signal output line to the output circuit according to a position of the selected dummy photoelectric conversion element;

~~a logic circuit for controlling the signal output line switching circuit; and~~

~~an output circuit for processing the first and second photoelectric conversion~~

~~signals transmitted through the selected first and second signal output lines respectively and then outputting a difference therebetween as a resulting signal, the output circuit being connected to the selected first and second signal output lines through the signal output line switching circuit,~~

a logic circuit for controlling the signal output line switching circuit to switch from a first signal output line currently selected to a first signal output line corresponding to the first group subsequently selected and from a second signal output line currently selected to a second signal output line corresponding to the second group subsequently selected wherein, after a last image reading photoelectric conversion element in a first group currently selected and a last dummy photoelectric conversion element in a second group currently selected have been read~~[[, and]]~~ but before a first image reading photoelectric conversion element in a first group subsequently selected and a first dummy photoelectric conversion element in a second group subsequently selected are read, ~~the signal output line switching circuit switches selects one of the plurality of first signal output lines corresponding to the first group subsequently selected and one of the plurality of second signal output lines corresponding to the second group subsequently selected.~~

12. (Currently Amended) An IC chip for reading an image as claimed in claim 11, further comprising:

a first initialization selection circuit for sequentially selecting the plurality of image reading photoelectric conversion elements and initializing the selected image reading

photoelectric conversion element; and

a second initialization selection circuit for sequentially selecting the plurality of dummy photoelectric conversion elements and initializing the selected dummy photoelectric conversion element,

wherein the first read selection circuit reads the first photoelectric conversion signal from the selected image reading photoelectric conversion element during one period of a clock signal, and the first initialization selection circuit initializes the selected image reading photoelectric conversion element during a last half of said one period and during a first half of a next period of the clock signal, and

wherein the second read selection circuit reads the second photoelectric conversion signal from a dummy photoelectric conversion element that forms a pair with the selected image reading photoelectric conversion element during said one period, and the second initialization selection circuit initializes the dummy photoelectric conversion element that forms a pair with the selected image reading photoelectric conversion element during a full period prior to said one period of the clock signal.

13. (Currently Amended) An image reading device comprising:

one or more IC chips for reading an image, each comprising:

a plurality of image reading photoelectric conversion elements
divided into a plurality of groups;

a read selection circuit for sequentially selecting the plurality of
image reading photoelectric conversion elements and reading a

photoelectric conversion signal from the selected image reading
photoelectric conversion element;

~~an initialization selection circuit for sequentially selecting the
plurality of image reading photoelectric conversion elements and
initializing the selected image reading photoelectric conversion element;~~

a plurality of signal output lines by way of which the photoelectric
conversion signal is transmitted, each of the plurality of signal output lines
being independently provided from each other and corresponding to and
~~independently provided for each of the plurality of groups;~~

an output circuit;

a signal output line switching circuit connected between the plurality
of signal output lines and the output circuit for sequentially selecting
[[from]] among the plurality of signal output lines to lead the photoelectric
conversion signal transmitted through the selected output line to the
output circuit; ~~according to a position of the selected image reading
photoelectric conversion element;~~

~~a logic circuit for controlling the signal output line switching circuit;~~

~~an output circuit for processing the photoelectric conversion signal
that is transmitted through the selected signal output line and then
outputting a resulting signal, the output circuit being connected to the
selected signal output line through the signal output line switching circuit;~~

a clock input terminal by way of which a clock signal is fed in;

a start trigger signal input terminal by way of which a start trigger signal for sequentially scanning an image being read is fed in from an IC chip for reading an image in a previous stage; and

a start trigger signal output terminal by way of which a start trigger signal for sequentially scanning the image being read is fed out to an IC chip for reading an image in a following stage~~[[,]]; and~~

a logic circuit for controlling the signal output line switching circuit
~~wherein the signal output line switching circuit switches to~~ switch from a
signal output line currently selected to a signal output line corresponding
to a next group ~~from a signal output line currently selected~~ after a last
photoelectric conversion signal in the currently selected ~~a current~~ group
has been read but ~~[[and]]~~ before a first photoelectric conversion signal in
~~[[a]]~~ the next group is read,

wherein the image reading device further comprises an A/D converter for
converting a signal output from the output circuit of said one or more IC chips into a
digital signal.

14. (Currently Amended) An image reading device comprising:

one or more IC chips for reading an image, each comprising:

a plurality of image reading photoelectric conversion elements
divided into a plurality of first groups;

a first read selection circuit for sequentially selecting the plurality of

image reading photoelectric conversion elements and reading a first photoelectric conversion signal from the selected image reading photoelectric conversion element;

~~a first initialization selection circuit for sequentially selecting the plurality of image reading photoelectric conversion elements and initializing the selected image reading photoelectric conversion element;~~

a plurality of first signal output lines by way of which the first photoelectric conversion signal is transmitted from the plurality of image reading photoelectric conversion elements, each of the plurality of first signal output lines being independently provided from each other and corresponding to and ~~independently provided for~~ each of the plurality of first groups;

a plurality of dummy photoelectric conversion elements divided into a plurality of second groups, each of the plurality of dummy photoelectric conversion elements shielded from light and forming an exclusive pair with one of the plurality of image reading photoelectric conversion elements by being arranged in close proximity thereto;

a second read selection circuit for sequentially selecting the plurality of dummy photoelectric conversion elements and reading a second photoelectric conversion signal from the selected dummy photoelectric conversion element;

~~second initialization selection circuit for sequentially selecting the~~

~~plurality of dummy photoelectric conversion elements and initializing the selected dummy photoelectric conversion element;~~

a plurality of second signal output lines by way of which the second photoelectric conversion signal is transmitted from the plurality of dummy photoelectric conversion elements, each of the plurality of second signal output lines being independently provided from each other and corresponding to ~~and independently provided for~~ each of the plurality of second groups;

an output circuit;

a signal output line switching circuit connected between the plurality of first signal output lines and the output circuit for sequentially selecting ~~[[from]]~~ among the plurality of first signal output lines to lead the first photoelectric conversion signal transmitted through the selected first signal output line to the output circuit ~~according to a position of the selected image reading photoelectric conversion element~~ and also connected between the plurality of second signal output lines and the output circuit for sequentially selecting ~~[[from]]~~ among the plurality of second signal output lines to lead the second signal output line to the output circuit ~~according to a position of the selected dummy photoelectric conversion element;~~

~~a logic circuit for controlling the signal output line switching circuit;~~

and

~~an output circuit for processing the first and second photoelectric conversion signals transmitted through the selected first and second signal output lines respectively and then outputting a difference therebetween as a resulting signal, the output circuit being connected to the selected first and second signal output lines through the signal output line switching circuit,~~

a clock input terminal by way of which a clock signal is fed in;

a start trigger signal input terminal by way of which a start trigger signal for sequentially scanning an image being read is fed in from an IC chip for reading an image in a previous stage; ~~[[and]]~~

a start trigger signal output terminal by way of which a start trigger signal for sequentially scanning the image being read is fed out to an IC chip for reading an image in a following stage ~~[[,]]; and~~

a logic circuit for controlling the signal output line switching circuit to switch from a first signal output line currently selected to a first signal output line corresponding to the first group subsequently selected and from a second signal output line currently selected to a second signal output line corresponding to the second group subsequently selected
wherein, after a last image reading photoelectric conversion element in a first group currently selected and a last dummy photoelectric conversion element in a second group currently selected have been read~~[[, and]]~~ but before a first image reading photoelectric conversion element in a first

group subsequently selected and a first dummy photoelectric conversion element in a second group subsequently selected are read, ~~the signal output line switching circuit switches selects one of the plurality of first signal output lines corresponding to the first group subsequently selected and one of the plurality of second signal output lines corresponding to the second group subsequently selected,~~

wherein the image reading device further comprises an A/D converter for converting a signal output from the output circuit of said one or more IC chips into a digital signal.